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ABSTRACT

One of three papers commissioned as part of the Postsecondary Education Core Design Project of the National Center for Education Statistics (NCES), one of this study's purposes was to identify and set priorities for postsecondary education decisionmakers in the area of financial viability in postsecondary institutions. Another purpose was to translate these issues and priorities into operational terms for use in NCES data collection activities. Four parts make up the report. The first summarizes the main issues, concepts, and recommendations. The second defines the meanings of financial viability, identifies several key issues, and describes some of the implications for data production. The third part concentrates on some of the major recommendations for ongoing statistical work, and the fourth (the appendix) contains sample data collection aids and a brief annotated bibliography. The issues and data collection needs in this area are complex, and the data requirements question is found to have at least two dimensions. The first is how to modify existing statistical surveys without sacrificing the consistency of established and useful time series. The second is how to speed up professional dialogue for consensus on methodology as well as on concepts and financial viability models. (MSE)

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ISSUES IN POSTSECONDARY EDUCATION

National Center for Education Statistics

Financial Viability of Institutions

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Sponsored Report Series

ISSUES IN POST-SECONDARY EDUCATION

Financial Viability
of
Institutions
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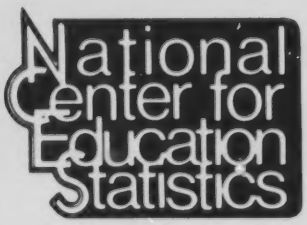

NATIONAL CENTER FOR EDUCATION STATISTICS

"The purpose of the Center shall be to collect and disseminate statistics and other data related to education in the United States and in other nations. The Center shall . . . collect, collate, and, from time to time, report full and complete statistics on the conditions of education in the United States; conduct and publish reports on specialized analyses of the meaning and significance of such statistics; . . . and review and report on education activities in foreign countries."--Section 406(b) of the General Education Provisions Act, as amended (20 U.S.C. 1221e-1).

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FOREWORD

This paper is one of three commissioned by the National Center for Education Statistics (NCES) as part of the Postsecondary Education Core Design Project. NCES initiated the project in response to recommendations from the postsecondary education community. Its purpose was to identify and set priorities for the concerns of major postsecondary education decision-makers and to translate these concerns into operational terms for implementation into NCES data collection activities.

To centrally coordinate and integrate the requirements of data users, NCES sponsored two conferences in Washington, D.C. The participants were informed that, through a series of meetings and papers, the project was designed to:

1. Identify major current and future issues and related data needs in postsecondary education and place them in priority ranking;

2. Separate out those significant issues and data needs for which questions might be included in the Higher Education General Information Survey (HEGIS);

3. Explore through thought-provoking papers, the most crucial issues and their implications for long-term NCES data collection activities;

4. Translate the issues and data needs into operational data collection procedures; and

5. Provide both short-term and long-term recommendations for collecting postsecondary education data. Both sets of

recommendations were to be gauged for future NCES data collection activities.

In addition to sponsoring the two conferences, NCES commissioned issue papers in three areas it deemed particularly important for consideration in its future data collection and dissemination plans. The papers were to be based upon discussions which occurred during the conferences. The three areas identified as being of significant concern in its future efforts were:

1. Financial Viability in Postsecondary Education Institutions

2. Personnel Challenges in Postsecondary Education

3. The Impact of Non-Traditional Students on Postsecondary Education

This paper addresses the issue of Financial Viability of Institutions, and was authored by Professor Hans H. Jenny.

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INTRODUCTION

This issue paper is divided into four parts. The first summarizes the main issues, concepts, and recommendations. The second part develops the author's primary thrust. It defines the meanings of "financial viability," identifies several key issues, and describes some of the implications for data production. The third segment of the paper dwells on some of the major recommendations for ongoing statistical work. The fourth and last - the appendix - contains sample data collection aids and a brief annotated bibliography.

At present, the data requirements that pertain to the financial viability issue in postsecondary education (PSE) are both complex and -- if not controversial -- unresolved. The complexity arises from the many legitimate points of view that must be considered. The lack of resolution and the presence of controversy exist because to date there is no well-established consensus on what is meant by "financial viability," either as seen from the broad Federal and State perspective, or even as perceived within the more narrow institutional frame of reference.

The author has devoted much of his recent professional efforts to research and discussions designed to clarify, at least in his own mind, if not in that of others, what might be meant by "financial viability" in PSE. To this end, his experience and personal interests may have led him to stress events and concepts that are particularly appropriate in the settings of privately governed PSE institutions and especially those in higher education.

Nevertheless, in this essay an attempt has been made to present the

arguments so that they are valid -- in some instances, after appropriate adaptation and interpretation -- for PSE generally.

Because of the state of affairs described in the second part of this essay, the data requirements question has at least two dimensions: first, how do we modify existing statistical surveys within reasonably consistent patterns in order not to destroy established and useful time series; and, second, how can we speed up the professional dialogue so as to bring about a workable consensus not merely on survey methodology but more fundamentally on concepts and financial viability models? Without this second dimension it will be difficult, if not impossible, to address directly and forcefully the issue of financial viability proper.

PART ONE:

CONCEPTS, ISSUES, AND SELECTED RECOMMENDATIONS

A. Definition

1. We define "financial viability" as follows: An economic unit social entity is said to be financially viable if it has at its disposal, over time, adequate and appropriate resources that allow it to achieve its stated or implied objectives.

This definition also applies to single PSE institutions and to such combinations as multi-versities, multi-campus public State universities, State university systems, and regional groupings of collegiate institutions having common purposes.

2. Given the diversity of settings in which financial viability questions may arise, it is essential to understand that data elements and information gathering become a function of the particular frame of reference and of the specific policy issues being studied.

The information source will, wholly or in part, always be the individual institution or those agencies (particularly in State systems) that are specifically charged with data compilation.

3. The financial viability of PSE institutions can be considered as the cornerstone in policy analysis and statistical data design which takes as its focus the broader financial viability concept of the above definition.

4. In the past, data collection concerning PSE (and, more specifically, of higher education) has tended to result in formats based on uniform standards and definitions across a broad array of distinct educational institutions. In the future, it is hoped that the

emphasis will be more on models that recognize the individual nature of specific types of institutions.

Research universities and community colleges have very little in common except an accounting system that has been imposed on the entire industry. Financial viability analysis requires that the specific missions of institutions and the educational objectives deriving from them represent the point of primary focus.

It may be appropriate and timely to consider a financial reporting format designed with the particular nature and purpose of types of institutions in mind. Special care should be given to distinguishing between publicly and privately controlled institutions, and to relevant differentiation within each group.

5. This consideration highlights the need for defining carefully what is meant by PSE. In its narrow setting, PSE represents a modest extension beyond higher education into all those educational activities that meet present Federal (and, in some instances, State) requirements if an institution is to benefit from prevailing direct and indirect subsidies and support.

In its broader setting, PSE is a vast industry of relatively uncharted and little-researched scope, embracing educational and research activities in industry, commerce, labor and government all having an impact on the Nation's store of knowledge and know-how, on citizens' employability through manpower development, on health and technology, and on culture in general.

B. Key Policy Issues

Major policy issues have significance at the Federal, State, and

local government levels; they are also relevent to individual institutions.

1. Of national concern, and thus of importance to Federal policy-makers, are the following major issues: access to PSE; free choice by students among institutions; diversity of institutions and educational programs; adequate development of science and scientific manpower; satisfactory supply of medical services with the aid of properly trained medical personnel; optimal medical science development; and an adequate and appropriate supply of scientific and technological manpower capable of addressing itself to the changing technical and social problems that the Nation will face over time.

2. Since the responsibility for PSE (and especially for higher education) has been delegated traditionally to the States, the nature and scope of statewide planning is a major issue.

In the coming teenage population decline forecast for the 1980's, a special problem in this respect is the confrontation and competition in a potentially shrinking market between publicly and privately controlled institutions.

Another issue concerns primarily the public sector: what are effective and less effective financing and budgeting approaches, and which types of funding formulas show promise for keeping publicly controlled institutions financially viable?

Finally, how States subsidize students through student aid and direct tax appropriations has connotations both for the financial viability of individual educational institutions and for the broader National issues of access and choice.

3. At the institutional level, the concept of "financial viability" poses certain problems because measurement may differ depending upon

the type of PSE institution studied. The proprietory sector will have terminology and measures that may not be the same as those normally taken for granted in higher education non-profit institutions. And the data collected among the latter do not seem to be wholly appropriate for financial viability studies.

Although progress has been made, a still relatively unsolved question is how one determines the cost of production in educational institutions. The distinction between fixed and variable costs, among other things, is central to any financial viability analysis.

A special difficulty arises in the fixed cost area, particularly with respect to non-human capital: if a college or university is to remain or become a going concern in the long run, its revenues must be large enough to cover all costs of production. PSE institutions now do not report their expenditures and costs in terms of a full-capital-cost concept.

Financial viability, even in its narrowest meaning, can only be determined if one has an understanding of the long-run revenue requirements under full-capital-cost assumptions. And full costs include the capital replacement or renewal dimension which colleges and universities in particular have not been required to report in its total scope.

4. The quality issue -- and with it the logical corollary of productivity -- is also central to financial viability analysis and to policy issues such as the ones listed earlier. Financial viability questions are to a large extent questions of <u>how well</u> an educational institution performs its task.

At the National and State level it may be of interest to know whether public policy is leading to "lowest common denominator"

educational standards. If the State has particular quality standards in mind, it will be useful to be able to determine whether or not they have been achieved.

C. Statistical Implications

1. In order to deal statistically with financial viability issues and policy dimensions, it is important to understand that the data elements that may have to be assembled for any sort of analysis are themselves a function of the particular context in which the financial viability issue arises.

2. As the Second Newman Task Force Reoprt stated pointedly, much of the relevant data gathering efforts will require that a proper theoretical or analytical framework will have been established from which the data formats evolve logically. In much of the financial data-gathering of the past, such a framework has been absent.

This paper and the attached working paper (see appendix A) set forth in broad terms one type of framework for statistical analysis. Part three explains illustrations of data element structures.

3. The demand for "indicators" has been increasing, and among these there are some logical financial viability indicators. One such is an indicator of inflation in PSE. We recommend that the Halstead Higher Education Price Index be broadened to encompass the entire educational institution. Other key indicators are mentioned in part III.

The requirement for financial viability indicators implies also that in several areas protracted preliminary research efforts must be undertaken. The fact that institutions or the industry has been gathering data for certain variables does not make the latter indicators of

anything in particular unless empirical analysis shows that the variable indeed tells us something significant.

The relationship that exists between an inflation measure in education and educational productivity illustrates this point: there is a preliminary need for concept and model building from which routine data gathering may eventually follow.

4. Another point of much past controversy has been on the question of whether or not periodic sample surveys and studies would be sufficient in contrast to NCES' preference for all-institution surveys.

We believe that in all but the rarest instances, sample surveys will be adequate. There exists an ample methodology for making aggregate, all-industry estimates once the confines of PSE have been defined for each particular investigation.

NCES need not become the competitor of those organizations -- ACE, NAICU, Associations of independent colleges and universities in several States, the various State planning or coordinating bodies, and Bowen & Minter for the independent sector -- who successfully are gathering data and undertaking periodic studies from which time series can be developed. NCES might act as often as not in the capacity of subcontract issuer and as a facilitator and coordinator of policy studies that will assist the legislature. Part III mentions some additional aspects of this facilitating and coordinating role.

D. Specific Studies

1. Some basic enrollment information is essential for institution-centered financial viability studies.

Three types of enrollment data are desirable: (a) body count;

(b) academic full-time equivalent; and (c) financial full-time equivalent. All of these should not be based, as is now the case, on fall enrollment surveys; full annualized information is required so that the net enrollment change throughout the year can be determined. Fall enrollment statistics should not be related in financial studies to annual revenue and expenditure trends.

Since qualitative factors are important, certain admissions data becomes important. In addition to test scores and other conventional variables, we believe that time series on the number of applications, the number of students admitted, and the number of related matriculations provide an insight into changing marketability, admissions standards, and inter-institutional competition.

Retention ratios are another important ingredient. When these and the above information are used in conjunction with the financial analysis, the changing institutional as well as industry picture begins to sharpen.

2. The next important element in institutional studies of financial viability is the cash flow provided by and on behalf of students. This is another way to say that, among other things, one must focus on the structure of student aid revenues which today have a major stake in defining the financial condition of educational institutions.

Part III sets forth some illustrations of a type of study that might be undertaken; the example is one of a survey now already in its fourth year in at least one State and in its second or first year in several others.

One example is given of an ad hoc type of student aid study; this focuses on the internal structure of the aid allocated by institutions

and on the resulting cash flow produced by each student.

3. In analyzing the financial condition of an individual institution, Part III provides three exhibits. The first suggests a survey of operating expenditures by key line items. Since this is an essential element for developing a total institutional inflation measure, it would appear to represent a logical supplement to the present functional expenditure survey.

The second step in the irstitutional analysis is to determine how adequate revenues have been each year or over time. Appendix A, exhibit 5, provides the detail that might be studied and collected.

4. A special feature of the recommended data format is the need for a "capital charge" concept. Here some intellectual development is necessary and a number of definitional problems must be ironed out by the industry, preferably in such a way as to guard against violating the individuality of specific types of institutions.

The display of financial information to this point is such that it will allow analysts to group individual institutions according to where, in the order of net revenue lines, deficits are beginning to show up.

5. Beyond this, the financial analysis requires that a series of other variables be tracked regularly. Some of these are listed in appendix A, exhibit 5. They include such items as changes in fund balances, expendable reserve balances, endowment investment return, sundry inflation adjusted revenue and expenditure components, and appropriate program and staffing indicators.

We consider the illustrations provided as developmental and would expect the specifics to be altered, more or less depending upon the type of institution or the type of policy issue studied.

6. Within the broader financial viability context, but closely related to the foregoing, a few more specific studies suggest themselves. One of these would be patterned after NAICU's present Student Aid study which limits the sample to independent institutions. Because of the twin major national policy issues -- access and choice -- it is timely to investigate the relative success or failure of the combined Federal, State, and private student aid efforts.

Another perspective on PSE attendance and access could be provided by a study of the current mix of students in terms of family income distribution, race or ethnic origin, and professional expectations.

7. Of special importance could be a broad-gauged study of the PSE industry, its nature and scope, especially in the broader context defined in part II. Such a study could contribute to policy in other fields, especially in the realm of policy for employing teenagers.

8. We see the need for a major effort in educational productivity and educational outcomes studies. The pathbreaking O'Neill study ought to be perfected, brought up-to-date, and some quality measurements should be introduced.

More fundamentally, however, there exists a need in PSE as well as throughout the service industries to come to grips with the "quality" issue in the measurement of productivity. This issue requires a concerted effort of the economics profession and of analysts in education. It is perhaps a matter of over-riding significance, in that the present state of the art tends to lead to dysfunctional or even destructive policy, since one of the outcomes is that in the absence of appropriate quality measures, quality improvement becomes synonymous with inflation.

9. Among the special cost studies that might be undertaken, we believe that one focusing on "compliance costs" would be welcomed by the industry. The model for a comprehensive study might be the ACE pilot effort of several years ago.

10. Since financial viability analysis must focus on variable and fixed costs and thus on capital, an industrywide analysis of future capital requirements based on existing capital investments seems to be a timely effort. Such a study might help sharpen the conceptual debate on what is meant by financial viability.

11. Some mention has already been made of policy issues that pertain directly to statewide planning. Given the demographic forecasts for the 1980's, it might be useful to consider a nationwide study of the expected impact of teenage population trends and compre the new findings to existing plans and older projections.

The possible impact on the independent sector of PSE could be studied as a separate undertaking. Or it might be useful to investigate the probable impact on certain public and independent institutions. This is an area where modeling could give rise to some sophisticated studies which, in turn, might come up with policy recommendations.

A special aspect of such studies centers on the kinds of countervailing Federal policies that might have to be implemented given the manner in which the States may be approaching the problem. For instance, the studies might show that certain States are planning to strengthen while others may be weakening certain essential segments of PSE. If these segments are to remain financially viable, what could the Federal role be, if any?

12. While we do not recommend studies or policies designed specifi-

for supporting through Federal resources institutions which have become financially unviable, we believe that it might be useful to consider periodic investigations into planning and budgeting through case studies in order to document what seems to be working and what appears not to work.

We think that in its professional perspective, given the huge sums invested, the Office of Education ought to make its contribution to the state of the art of managing PSE institutions. It can do this by furthering the professional dialogue, by encouraging and, in part, by funding research that addresses itself to managerial questions. Sound institutional management may save money in the long run and it may improve the educational output over time.

In this respect, we recommend that NCES create a periodical publication for the specific purpose of disseminating statistical data and professional discussions. The publication should be patterned after such ventures as The Survey of Current Business and The Monthly Labor Review. Eventually, we would expect such a publication to appear each month; at the outset, a quarterly journal might be most appropriate.

As in the two publications mentioned, indicators describing the behavior of the industry would be expected to be the prominent feature.

PART TWO:

THE MEANINGS OF FINANCIAL VIABILITY; STATISTICAL IMPLICATIONS

> "To develop the data and analysis needed for informed policy-making, we recommend creating a new statistical agency and an upgraded analysis and data collection policy for the Education Division of the Department of Health, Education, and Welfare. Collection of information was the first role assigned to the Office of Education, but today the resources, capabilities, and support for this task fall far short of comparable federal efforts to generate information for policy-making in economic policy, employment, or science. The new statistical agency, designed to establish a new leadership role of the federal government in the collection of educational data, should integrate the policy analysis and data collection functions, now performed by separate units. A revised data collection policy should include an expansion of the universe of educating agencies on which data is collected and a greatly increased emphasis on longitudinal studies of the effect of different educational environments on students."[1]

This part of the paper contains three major sections. The first one defines financial viability within the scope of PSE. The second identifies several key PSE issues. And the third takes up some of the implications for statistical studies.

A. The Nature of Financial Viability and the Scope of PSE

To the author's knowledge, the data requirements question has not been asked within the context of financial viability since the days of the National Commission for the Financing of Postsecondary Education. The American Council on Education, the National Association of College and University Business Officers, and the National Center for Education Statistics have for more than a year held conferences and encouraged discussions which, among other things, have focused on the current and future state of higher education statistics. Although financial viability was a concern from time to time, it did not play as central a role as it

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[1]Frank Newman et al., The Second Newman Report: National Policy and Higher Education. Report of a special task force to the Secretary of Health, Education, and Welfare. (M.I.T. Press, Cambridge, Mass. 1973).

does in this assignment.

Those who are familiar with existing financial (and related) statistics in higher education know that financial viability has not been a central issue in their design. If we may be permitted to borrow a phrase from another field of social research, much of our present body of higher education statistical information has been and remains essentially dysfunctional when we raise the financial viability question. It is useful to recall Frank Newman's severe criticism to this effect (see above). In their then and present form, financial and related educational statistics lack a unifying theoretical or analytical foundation.

This is a serious accusation as well as a shortcoming. In part it is explained by the fact that there never existed a mandate for a solidly in-theory anchored higher education finance system of statistics.

Rather, the requirement has been for statistics that respond in part to congressional mandates and in part to interinstitutional or industrywide consensus. Legislatively mandated surveys consume a significant portion of NCES' annual appropriations.

With respect to financial information proper, particularly those elements that pertain to institutional revenues and expenditures, a sharp eye toward funding sources on the one hand and a concern for minimum disclosure (lest established funding be jeopardized) on the other hand seem to have been among the important criteria that produced the present system. Another major characteristic of the finance package in the Higher Education General Information Survey (HEGIS) is the standardization of data elements throughout the industry across

what may well be significantly different (differentiated) institutions.

It is only fair to say also that the NCES staff has been responsive to pressures from the outside and thus has periodically revised its survey instruments. Unfortunately, the pressures exerted have led repeatedly to what must be termed political compromises. The higher education industry must be blamed for promoting a system of financial statistics that lack a finance-theoretical base (for institutional assessment) and which fail to embody a socioeconomic theoretical framework (for industrywide or national assessment) that describe the financial condition of higher education in any very meaningful manner. The PSE dimension further complicates matters, as we shall see.

It is impossible, in an essay of some 70 pages, to produce a foundation for PSE financial statistics that has so far eluded those who normally speak for the industry. But we believe that we can at least hint at what some of the concepts and components of a functional system may be. Financial viability is both a unifying and a constraining foundation; if we were to substitute another issue or principle, a different design would most surely emerge.

1. The Meanings of Financial Viability

Financial viability has meanings that depend upon the context in which the issue is studied. For policy makers it makes a difference if we speak primarily of institutional concerns or if we look at broader contexts such as statewide planning or even national issues.

a. Our definition of "financial viability" is relatively simple: an economic or social entity is said to be financially viable if it has at its disposal, over time, adequate and appropriate resources that allow it to achieve its stated or implied objectives.

There is inevitably a certain subjectivity in such a definition; what may be "adequate" or "appropriate" can be matters of judgment. In an enterprise such as education, where qualitative factors and intangibles abound, this should be taken for granted. On the other hand, it may be possible to determine criteria for delimiting boundaries that help circumscribe what is meant by "adequate" and "appropriate."

b. It may be argued that a national system of statistics for PSE (or, more narrowly, for higher education) should have a primarily national policy focus. In this sense, the analytical framework around which the statistical apparatus is to be constructed would derive from the policy questions and the underlying cause-and-effect theories that pertain to key national policy issues. Some of these will be taken up below.

On the other hand, education is a policy matter for which the States rather than the Federal government have been responsible. Even today, when the Federal involvement is deepening rapidly, the primary responsibility for PSE lies with State governments. Therefore, any statistical system that describes PSE must be designed in such a way as to embrace State PSE policy issues.

In addition, a State PSE or a national system represent composites of subsystems. Among these, we must distinguish geographical subsystems as well as types of institutions with specialized educational missions. While policy considerations may overlap, the fate of major research universities and that of narrowly defined vocational PSE institutions may require very different approaches. Financial viability models may be

generalized to a certain extent, but they also need to take into account the specific financial structures that best describe each of the relevant subsystems.

In the past, we seem to have taken for granted that the smallest entity that matters in financial viability analysis is the "institution," in other words, the particular college or university. Yet, among some of our more complex institutions, those which Clark Kerr called the multi-versities, entities may exist whose financial analysis must be undertaken in miniature, so to speak, if one wants to understand the meaning of "financial viability" in the broader setting of the legal university unit.

c. The multiversity setting offers an appropriate illustration of some of the dimensions that may have to be considered when the financial viability concept is applied to individual educational institutions.

As is the case in a complex business corporation, we take for granted that there exists an overall corporate objective which can be articulated in total corporate plans and policies. Once a year, at the least, a comprehensive report on profits and losses and a consolidated balance sheet are prepared. But increasingly, the Securities and Exchange Commission appears to have found this total aggregation of many separate parts less than fully illuminating. We seem to be moving toward a requirement that more information be given about the separate parts of the total bundle of corporate activities.

In the multiversity, financial viability analysis will require similarly that we study those separate parts that have distinct as

well as distinguishing characteristics. Examples are the professional schools and the teaching and research hospitals which play a large part in certain university budgets and some of the extensive public service activities that may overshadow certain other educational missions of the university.

The fact that individual university administrators do not like to break out some of the major elements that constitute the "economics" of the relevant subsystems is not really of as great a moment as is the fact that, without adequate detail, an accurate assessment of institutional financial viability cannot be made either by insiders or others. We have been treated to some rather convoluted reasoning during the debate on educational costs which, among other things, tended to disparage attempts at identifying specific cost centers. One need not always sink to the departmental level to find relevant detail; on the other hand, certain of our complex educational institutions represent conglomerates, some of whose parts will require separate analysis if we are to understand the meaning of "financial viability" in the total enterprise.

d. This is not to say that the concept of financial viability requires institutional survival as the primary objective criterion. But we must understand what the implications of institutional financial viability are if we are asked to provide answers to broader policy issues.

National and State policy toward PSE may strengthen or weaken the educational mission of particular institutions. Public policy is not pre-ordained to have favorable effects--even if so intended--on all concerned. In recent years, public policy seems to have been

framed within, at times, rather significant uncertainties. This means that well-intended legislation can have unforeseen consequences, and some of these may be patently undesirable.

It is therefore important that policy research embody both a before-and-after-the-legislation analytical capability. At each policy level, the requisite data elements will be a function of the particular policy issue. For practical purposes, the information source will wholly or in part always be the institution. But the institution and its representatives may not always be the best judge of which data elements best describe the interaction variables that characterize a particular issue. Financial viability is too broad and important a concept to be defined primarily by finance officers of colleges and universities.

e. Nevertheless, the financial viability of institutions might be considered as the cornerstone in policy analysis and statistical data design that takes as its focus the broader financial viability concept described earlier.

Institutional financial viability analysis will stress, among other things, the resources requirements under specific assumptions or constraints. A major shortcoming in existing financial statistics is the student's inability to define resources requirements in terms of institutional objectives. Much of the same is true in the broader policy setting when State or national issues are involved, except that in the former, one has at one's disposal specific plans (where the States have them).

f. College and university finance falls somewhere between the two extremes of corporate-for-profit finance on the one hand and

of State or municipal not-for-profit finance on the other. The privately controlled colleges and universities may have more in common with the former, and the publicly owned institutions may resemble more the latter. Yet, we have tried to treat each identically.

Outside the field of public finance there really is no such thing as an "economics of the non-profit sector." The latter may in fact be the wrong nomenclature from which to engage in college and university financial analysis.

Prevailing college and university finance statistics -- as well as fiduciary accounting practice -- stress current revenues and expenditures, and they do it in such a way as to downgrade, if not ignore, the essential capital concepts that are an integral part of all economic undertakings. It is exactly with respect to capital requirements that financial viability analysis will enter novel ground in PSE, but not so novel that proprietary PSE institutions would not know how to ask the questions or how to provide some of the answers.

The problem is not quite as straightforward when we consider publicly owned PSE institutions whose financing patterns are most easily described and analyzed by the prevailing fiduciary fund accounting practices that also characterize our national PSE finance statistics. The capital concept inherent in established accounting patterns seems to be limited to buildings and certain types of equipment that can be classified in an institution's plant and equipment account. Since States provide their own institutions with special financing mechanisms, there exists a logical inter-

action between the available information and the resulting understanding of how the institutions function financially.

When an essentially public finance system of accounting and analysis is imposed on all PSE institutions, some serious questions arise, particularly in view of the potential for misinterpretation or misunderstanding. In the current economic environment, the peculiar nature of the capital concept, used in higher education finance studies, has led to an almost industrywide misconception of prevailing capital requirements, other things remaining equal. The privately controlled college and university suffers perhaps more from the established tradition than does the publicly owned institution. But in both instances, the capital concept and dimension offer the pivot for future sound financial viability analysis.

Thus, when the broader State and national policy concerns come into play, it is not the institutional survival that is brought into focus, but the total current and capital resources that are required for the optimal achievement of the key policy concerns that matter at each level. Before mentioning some of these policy issues, a few words are in order about the scope of PSE.

2. The Scope of Postsecondary Education

Financial viability in PSE is a function of the nature and objectives prevalent in the industry; but it also is a function of the very scope of PSE proper.

The PSE industry is a vast enterprise encompassing all of higher education, the proprietary segment of post-high school vocational

training, the formal training and education undertaken by private business firms, labor unions, and government agencies, and the numerous educational and training efforts carried out under the auspices of our armed forces.

One of the important issues is not merely what is meant by the financial viability of this large industry, but where the limits will or should be drawn for data gathering. Are we satisfied with the boundaries defined by the recent higher education and PSE legislation and, accordingly, is PSE cicumscribed by those institutions which now qualify for Federal (and, in certain instances, State) support? Or should data gathering encompass a less restrictive view and consider the broader PSE dimensions?

PSE serves many constituencies, and a number of central policy levels can be distinguished. Traditionally, we think of Federal, State, and local government interests and policies. In addition to the legitimate concerns expressed by educational institutions and their clients -- among which students figure prominently -- industry, commerce, and labor are also vitally interested in how public policies affect the educational enterprise. Last but not least, taxpayers have a stake, if not always a direct voice, in the matter.

It is possible to give PSE an arbitrary scope as is the case presently if one starts with the established legislation. Accordingly, certain educational activities chiefly carried out within specified institutions, both publicly and privately governed or owned, will be germain to the analysis. Any evaluation of relative success in achieving national, State, or institutional objectives will then have to be judged within this rather precise but limited context.

On the other hand, it can be argued that the broader and perhaps less-well-defined PSE scope may be more appropriate in the analysis of certain objectives, particularly at the national level. Since full employment considerations in the field of economic policy may have something to say about or to do with educational activity (its quality as well as who is benefiting from it and who is being left out), the broader-scope definition may be most appropriate. On the other hand, if the question is how well certain Federal student aid programs are accomplishing their purpose and how the monies are flowing through the PSE industry, the narrower scope concept may be adequate.

Thus, once again we are confronted with the necessity of knowing the particular policy issues and educational objectives before we can correctly define the exact scope of what we mean by PSE. As is the case with the financial viability concept, the exact meaning may change depending on the type of issue under study.

B. Key Policy Issues

We shall not attempt to produce here a complete list of the major policy issues. It is safe to say that lists would differ depending on who is asked to compose them. Not only have we been selective, but our main purpose is to create a foundation for the next two sections of this paper.

1. National Policy Issues

Although the national agenda for PSE is probably quite long, we shall select a relatively small number of more or less obvious and traditional topics.

a. Some consider access to PSE to be one of the new basic rights. If it is not that, maybe it can be called a general expectation.

Access has a rather specific meaning when we consider the legislation and supporting appropriations that are intended to remove some of the financial obstacles that prevent entry for some citizens. How many qualified citizens want to enroll in established PSE institutions and programs? How many of these applicants are denied admission because the financial means are lacking at the combined Federal, State, and institutional level?

While these may be obvious questions policy makers would like to have answered, is our present statistical apparatus adequate and appropriate for producing a reply?

b. Somewhat more difficult is an answer that concerns another value cherished by Americans: free value choice. Accordingly, it may not be enough to be guaranteed the opportunity to enroll at some -- preferably, for the taxpayer, at a low price -- institution. Rather, the expectation may be to enroll at the institution of one's personal choice.

In this respect, it is being argued by some citizens who count themselves among the middle class that they have been locked out of certain higher-priced institutions because of a combination of inflation, income tax policy, and arbitrary legislative and administrative student aid policies. Although some studies show that there is no significant difference in the income distribution pattern of students' families when different types of colleges and universities are compared, the suspicion remains that the last word in the debate has not yet been spoken. The free choice issue remains a topic for policy research, and thus ample reason exists for appropriate statistical data production on either an ad hoc or an ongoing basis.

c. The problem becomes even more complex when we add diversity as another major national issue in PSE. In this connection, it is said to be essential that there be an adequate -- some use the word "optimum" -- number of institutional types so that program diversity can be assured.

To some, diversity means that there always be publicly and privately controlled institutions in PSE. If that is the case, then the prospects inherent in population trends augurs badly for the private segment of small colleges during the middle and late 1980's. What are these prospects, how will population trends affect PSE, and what kinds of institutions will suffer the most? What kinds of remedial actions, if any, can be taken at the Federal level? This issue raises most directly the financial viability question at the individual institutional level.

The issue of program diversity is for many reasons more interesting than the public-private diversity question. Is it a national responsibility to make experimentation possible or should it support the true and tried? Where is innovation more likely to occur, in private or public institutions? In large or small colleges?

Discussions concerning programs almost always lead to questions of how much they should or would cost. Thus, if program diversity is an important national issue for PSE, costing also becomes an issue as well as a necessary adjunct. This in turn has consequences for the type of statistical footwork that needs to be undertaken.

d. Another major national concern centers on the continuing ability of our educational institutions to provide the talent and know-how

for pure and applied research. At times, one hears that we have many research centers and research-capable institutions other than the research universities.

In the past, the leading role of research universities in producing the capability for an age of super technology has been taken for granted. Recently, both super technology and some of the university work have come under question.

Whatever the answer or outcome, we must assume that research universities will continue to be expected to perform essential and fundamental work in the pursuit of new knowledge. If these institutions are to do so, we must understand what is meant by financial viability in the carrying out of such a mandate.

e. Closely related to this is the role some of our universities have played in the field of health research and hospital care, as well as in training doctors.

Much has been said about our doctor shortage. Whenever there are shortages of fundamental services in an economic system, we are inclined to conclude that the system is not performing adequately. It is probably quite safe to say that our national production of medical personnel has been quite inadequate for many years. The evidence lies in the large number of foreign doctors who serve even in the armed forces. But even if the preceding statement should be disputed, health is a national policy issue, and the production of adequate health personnel and services is also a national issue. So is the matter of health science and research.

At this point, the financial adequacy or viability problem

assumes rather frightening proportions, since it ceases to be a matter of how well a given set of educational institutions are doing, and becomes a question of how well the national economy is delivering its health services. When it becomes the national policy to contain the rise of medical costs, it is difficult to know how this can be done without adequate knowledge of how the health industry functions and what those in it are doing.

Since we have buried the finances of university hospitals among a more or less miscellaneous catgory of revenues and expenditures, it may be fair to ask whether anyone knows what it means when these hospital-intensive institutions report their annual revenues, expenditures, and balance sheets. The case for a separate reporting is overwhelming.

f. Recently the Nation has been alerted to environmental concerns. Some time back, national defense or national security was an issue. Now, the decline in known fossil fuel reserves is in the news. The agenda of specifics will change over time.

However, the need for adequate scientific manpower and know-how does not change all that much. Rather, we seem to run low on imagination and money when dangers seem remote.

It is therefore of some importance that a <u>climate for impartial inquiry and debate</u> be fostered in the Nation, and the Federal government can play a role both in monitoring what is happening and in encouraging those who organize or undertake these activities. We are not suggesting here that the pursuit of academic freedom is all that matters. We are talking about the need for ongoing efforts, for continuity in research work, in personnel development, and in institutional support.

This Nation has been profligate with its resources. It thinks nothing of destroying entire factories or industries when there appears to be no immediate reason for them. And we turn the Federal research money spigot on and off with abandon. As if scientific cadres once disbanded could so easily be reconstituted We are a nation of crash programs and emergency task forces. Maybe the time has come to practice conservation in known scientific talent.

And with this goes the conservation of institutions that nurture the talents of scientists. To study and understand what this may mean in different fields of endeavor is to help answer the question of what we mean by financial viability in certain of our most prestigious PSE institutions.

2. Other Policy Issues

a. Since the States are, in fact, the responsible bodies for the delivery of PSE services -- particularly in higher education -- a primary issue is how each State plans these educational activities and then how it finances them.

Statewide planning in higher education has come a long way, but the public knows probably less about it than it should, given the fact that the financial consequences fall to a large extent on the taxpayer. Statewide planning of PSE activities in the broadest sense is a novelty whose consequences do not seem to have been studied systematically anywhere.

b. One of the adjuncts of statewide planning is the budgeting process that eventually determines how much money the individual institutions within the State will receive directly and indirectly.

In the final budget allocations the State government defines the financial viability of programs and institutions specifically each year.

c. An important dimension of the statewide planning effort concerns the interplay between public and private institutions. In a short two decades we have moved from a Nation where over 60 percent of the students were enrolled in private colleges and universities to one where these institutions barely account for 18 percent of the students. During an expanding population cycle, this change looked less ominous and one-sided than it actually has been. Now we are facing a declining teenage population and significant structural changes in the potential PSE clientele, one wonders whether institutional disappearance will occur primarily in the private sector.

Statewide planning must address itself to the public-private issue, and to this end adequate information on private institutions is a prerequisite. Many States now have insufficient data on their private PSE sector, both in its more traditional higher education or in its broader modern meaning. Nevertheless, State policy affects public and private institutions, often in unexpected ways.

d. An area of growing controversy is how State aid is given to students, and practices across the Nation differ widely. Much has been written on how to support institutions such that the cost to taxpayers would be minimized. And the impact of existing formula budget practices has come under renewed scrutiny once it was discovered that what worked well for institutions during enrollment growth years tends to have the opposite effect during enrollment declines.

At both the State and local level, financial adequacy has broad area-aggregate as well as more narrow institution-specific implications. Except for as-yet small experiments with "free" universities, PSE remains essentially an institution-centered activity. Thus, the financial viability question focuses strongly on institutional viability however much we may assert that it is the system's viability that matters above all else. Institutional financial viability itself becomes a major issue.

3. The Issue of Institutional Financial Viability

It has been said that non-profit organizations will try to maximize their annual revenues in order to maximize their expenditures. Another way to put this is to say that non-profit organizations will spend all the money they can lay their hands on. It used to be assumed that educational institutions were non-profit enterprises. With the PSE concept this no longer can be assumed.

a. For some PSE institutions and activities, profit will be the motive either directly or indirectly. In some instances, especially in the vast proprietary PSE sector, profit is a primary objective. Financial viability is in such instances defined in terms of the particular profit expectations and realizations. Once one has determined what prevailing production functions are and what the level of normally expected (or realized) rates of return is, straightforward economic and financial analysis will be able to provide guidance when judgments are made about a particular institution's financial viability. It is, of course, necessary to understand how the proprietary sector of PSE functions, where it obtains its revenues, and what normal expenditure structures are.

b. In the non-profit sector of PSE, particularly in higher education, it is more difficult to find a satisfactory answer, especially one that has the endorsement of those who speak for the industry. Today, institutional financial viability in colleges and universities is to a very large extent in the eye of the beholder. And, within this context, it makes a difference whether the beholder is inside or outside the institution.

The outsider is given precious little information about a given institution's financial viability in the sort of documents that traditionally describe the financial condition of colleges and universities. Not only have existing reporting standards not been designed to give us an idea of institutional financial viability, but it is clear that more than financial data are needed to tell us whether or not an educational enterprise is, in fact, financially viable.

This writer and others have had some unkind things to say in the past about college and university accounting. Quite possibly our disdain may have been directed at the wrong villain. At present, college and university accounting culminates in formal audit reports which serve primarily fiduciary purposes. Audits identify sources and uses of revenues, summarize changes in fund balances, and report on the distinction between restricted and unrestricted funds. Those who intimately understand a given institution's finances may be able to discern from formal audits how viable -- financially speaking -- it is. But if money is seen as a means towards the educational end served by the institution, more information is required. Much of it will be avail-

able in the accounting records. Some of it must be found elsewhere.

c. In a strictly financial sense, the institutional viability question can be answered only within a context that identifies costs of production. The national debate on costing is still somewhat unresolved, but it is clear that costing must reflect and embrace what economists call the "production function." This means that costing must reflect the technology of institutional endeavors. In a complex institution, this turns out to be a much more complicated requirement than a simple slogan will suggest. In financial terms, however, the first step is a careful distinction and identification of operation and capital expenditures which in turn can be translated into variable and fixed costs.

In financial terms, the essence of institutional viability lies in a college's or university's ability to render its assigned or preferred services over time. It is the going concern idea, or what has been called in economics "the firm in the long run," when revenues are sufficient to cover all costs of production.

Higher education has always had a problem with its capital resources, but perhaps never quite so seriously as today. Any definition of financial viability must encompass the revenue requirements that are embodied or implied not only in the prevailing teaching-learning-research technology, but in the existing plant and equipment structure of an institution on the one hand and in the operating expenditure structure on the other.

Other things being equal, an institution has at any given moment a forward cost liability built into and derived from

existing plant, equipment, and program combinations quite independent of possible interest and debt repayment requirements. This forward liability has two dimensions. First, there is the capital consumption or replacement aspect which gives rise to discussions about how much depreciation ought to be charged, if any. Since not all plant and equipment will probably have to be replaced, a plan is required that stipulates what will be required. Second, there is the need to provide efficient or effective up-to-date technology to those who purchase the institution's services. This generates a demand for new plant and equipment as well as for new personnel arrangements. Thus without changes in the program itself, the technology of producing institutional services may change over time and thus may require additional capital resources.

The need for new capital under status quo program constraints is one of the "lost" causes in higher education. In a business corporation it would become immediately observable and would be measured fully or in part in a number of ways. Those analyzing for-profit corporations would quickly gain a feeling of how adequately they are being financed and how far from industrial or group norms a particular company has been deviating.

All of the above has a significant bearing on the type of information that might be collected from time to time in order to determine whether the system of PSE or individual institutions in it are financially viable. And when we start with the comprehensive institutional understanding of the financial condition, we may be in a position to piece together what is meant by a

financially viable broader system, be it that of a given State or the national PSE system as a whole.

4. A Comment on Quality and So-Called Intangibles

The word "quality" comes into play frequently in conversations that deal with the assessment of institutional performance in PSE. It is something of a cliche to say that revenue or expenditure reductions will lead to quality deterioriation; and it is conversely just as popular to claim that more money will tend to improve what is being offered.

To some extent it is true, of course, that more money buys more and often better things; and with less money the quality of what is being done frequently does indeed decline. But by and large, we know very little about quality differences, at least in terms of their precise measurement.

Financial viabilty questions are to a large extent questions of how well an educational institution is performing its tasks. And since teaching and research are two of the most prominent educational activities, the quality question and the financial adequacy question both must come to grips with these two types of activity. In other words, are the monetary resources adequate for performing the educational and research tasks within the quality framework in which a given institution prefers or is expected to operate?

The pursuit of excellence is everybody's claim; how many achieve it is another matter altogether. And on whose terms a given quality of services is to be implemented financially remains certainly a fascinating question. At times it appears that, in our egalitarian society, the rights of individuals (as in the case of access to higher

education) are actively supported only to a level of quality common to such large numbers of persons that one is tempted to think of "low" common denominators. Again, this concern was brought out forcefully in both Newman reports published during the early 1970's. For policy decisions that center on the financial viability of institutions, the quality issue is of pivotal importance, however subjectively a given college's or university's educational and research "quality" levels will be defined.

Nothing better demonstrates the non-financial dimensions of the financial viability issue than an inquiry into the nature and causes of "quality" in the activities of educational institutions.

C. Statistical Implications

Since the data question underlying this paper focuses to a large extent on Federal policy, some special problems arise with respect to the nature and scope of the statistical effort that may be required if one desires to understand PSE as an industry or if one must formulate workable policy recommendations. This section will provide a few illustrations of different types of data or approaches that may be necessary.

Since financial viability is the central issue and our primary focus as well, a special requirement arises: the necessary data elements are themselves a function of the particular context in which the "financial viability" question arises. Although financial viability is not the primary objective in the data gathering effort -- as defined, it is a means to the end embodied in particular policies -- it becomes a sort of overriding policy constraint.

1. The Relationship Between Essential Data, Information, and Policy

The social science of economics offers a useful illustration for an approach to data collection in PSE that some would claim is long overdue. In the analysis of how the overall economy is performing, "national income" accounting and "business cycle" tracking represent center pieces that have become household concepts. In the monetary management arena, the concepts of M_1 and M_2, among others, can be found not only in the professional literature, but in weekly magazines read by the layman who wants to be well-informed.

All of the data being collected periodically stem from and center on economic theories which purport to describe the nature, causes, and effects of and among key elements or variables. Theories often mature slowly, and it takes time before a given theory leads to a systematic and functionally sound data gathering effort. The history of national income accounting and of business cycle indicators is a classic illustration.

Some theories, even when they have become reasonably well-entrenched, remain controversial. The monetarist theory of business cycle behavior is a case in point. But since money is a key element in the economy, data collection need not be thwarted simply because some people believe that money explains everything while others hold an opposite or more moderate view.

In PSE statistics, one of the key problems is that most data collection has little to do with theoretical models of how the industry behaves. As a result, most of the available data are rarely transformed easily into relevant information. Even if

data accuracy were not a problem and if timeliness of data reporting could be achieved, the central question remains: why the specific data elements that are being collected? Once one has taken care of the "compliance" aspect of much of the PSE data reporting and collection, the fundamental question of function and appropriateness remain.

Student aid provides us with an interesting illustration. Here a number of significant National, State, local, and institutional PSE issues come together. We listed access and choice earlier; manpower development and planning is another; institutional financial viability also is in the picture. Now it happens that certain cash flows to students and to institutions from a number of sources all have one thing in common: they enable students to pay their bills or to attend specific colleges and universities. The structure of the cash flows differs among institutions and changes over time. A single comprehensive survey instrument -- one of the type being used already experimentally in several States by independent colleges and universities -- can be designed enabling analysts to make a number of important studies that relate directly and indirectly to key policy issues.

As things now stand, information on cash flows from and on behalf of students can only be obtained from a special survey instrument and not from already established State and National surveys. Yet, the policy questions asked from time to time in Washington, D.C., and in State capitals require exactly the sort of information our illustration highlights (see part three). The very same information is required for analyzing the "financial

viability" of institutions, where cash flow analysis remains a central tool.

Another interesting illustration of why it is important to have concept - or theory - centered data collection comes from the "financial viability" issue as it pertains to an individual institution. HEGIS financial data are so highly aggregated that certain key information cannot be obtained from it. From the study of institutions that have gone out of business and of many who may do so in the near future, it is becoming clear that operating expenditures -- when compared with those of other, similar colleges and universities -- are not necessarily excessively high. Given competitive prices and comparable enrollments the institutions in question often are unable to raise the additional monies required for plant and equipment maintenance, for interest payments on debt, and for debt reduction. In other words, while their budgets support perhaps inadequately the educational effort, they are insufficient in their support of the total enterprise.

Two types of design changes may be necessary if the traditional national survey of college and university finance is to help policy makers and analysts understand the institutional financial condition. The first change requires a relatively simple restructuring of the present Statement of Revenues and Expenditures, whereas the second involves the creation of a supplementary Statement of the Structure of Expenditures by Key Line Items. Both changes are illustrated in part three. While the forms suggested are amenable to modifications, they reflect concepts of analysis that are familiar to

financial analysts in contrast to the more traditional components that have satisfied accountants interested in fiduciary reporting.

2. Indicators of Financial Viability

There has been a rising demand for data called "indicators of financial viability." Since our definition of financial viability has a micro - and a macro-economic dimension, indicators of financial viability will often embrace both of these also. A case in point is the much-advertised need for an inflation measure in PSE.

Kent Halstead's indices are a useful step forward but may not be the final word. Whether an indicator is called a PSE Price Index or something else, the concern with inflation cuts across a number of policy issues. Among the more interesting aspects is the relationship between an inflation measure and concerns about productivity in educational institutions. And this in turn leads to questions on the quality of educational input and output.

With an appropriate survey instrument that identifies expenditures by key line items, it is relatively easy to construct indices both for sub-components as well as for total institutional budgets. The Halstead cost deflators encompass only a portion of higher education expenditures, auxiliary enterprises and public service activities being left out. This is a much noted shortcoming to which the Office of Education has not responded. For a comprehensive analysis, all PSE expenditures must be included. The wage-non-wage structure of expenditures used in the Halstead HEPI Index is significantly different from that of an all-institution index. In particular, non-wage items loom much higher

in the Auxiliary Enterprise component than they do in the Educational and General division. But more significant is the nature of the non-wage items. Their prices often have risen at very fast rates in recent years, such that the total budget structure has changed significantly over time. And with the change in the budget structure, the inflation effect itself is quite different than that described by the prevailing index series. Thus, we not only are given an incomplete picture of inflation; we are given the wrong impression altogether.

The need for an inflation indicator for PSE brings into focus another dimension of the indicator-data problem: before we know what data to gather periodically, we may need some protracted research and testing on an experimental basis. The statistical offices working with inflation and other economic indicators elsewhere in the U.S. Government are well attuned to this need, and their budgets reflect to a larger or smaller extent the need for continuing development and improvement of established time series, indicators, and theoretical models. In addition, they work closely with the appropriate professionals in the scientific community, and together they are continuously engaged in improving the state of the art.

An illustration of a major joint professional effort that may be required is provided by the relationship between any inflation measure and the concept of productivity. The first issue in designing an inflation measure for an industry is whether salary and wage components should be mixed together with pure price components. More significant is the professional debate on how one measures

productivity in service industries and -- more narrowly -- how one accounts for improvements in technology over time, embodied in human labor, particularly in professorial and other professional talent. This latter in particular is a frontier area of thought and research to which PSE spokespersons and policymakers are only now beginning to pay attention.

Indicator work for PSE in other areas represents a mixture of the known and similar unknown elements, and future data gathering efforts must take this into account.

3. The Frequency and Detail of Surveys

While the financial viability constraint appears to limit the scope of the pertinent statistical inquiries that will be undertaken from time to time, our definition sets rather broad boundaries for this constraint. The limitations are imposed primarily by the policy issues in question.

Relatively few of the policy issues require the surveying of all of the institutions or individuals affected. In most instances, properly drawn samples will provide the necessary information.

One exception may be a survey of the revenues and expenditures so that an aggregate picture of the industry can be obtained. But in this respect, the writer recalls that when one surveys all of the institutions that report to The American Association of University Professors (AAUP), the total of respondents represent (depending on the year) somewhere between 1,300 and 1,400 institutions accounting for about 75 to 80 percent of the monies involved. These facts may suggest that sampling may be adequate all the time.

Once the sampling approach has been accepted, it will become possible to tailor survey instruments to the appropriate detail required by the policy question or theoretical problem at hand. The establishment of sample groups who regularly report on certain things has produced excellent results in surveys conducted by ACE, and more recently by Howard Bowen and John Minter, to mention but two of the more prominent efforts of the genre.

A significant effort should be developed in the area of statistics that concern so-called occasional issues and those policy matters that come before the Congress. Here again, the requisite data will most of the time be limited to samples of respondents and may preferably be undertaken by special contract arrangements. The problem has not been so much the absence of information to the general public as the lack of funding and data work designed to elicit answers for policymakers and policy researchers.

It is useful to remember again that PSE is a complex undertaking and that -- as we define it -- the financial viability issue cuts across broad areas of concern. The nature and quality of the educational effort is central to data production whose purpose it is to describe how well the industry functions. Part three, below, may not do justice to the breadth that has been suggested. It will, however, attempt to focus on immediate steps that might be taken to move forward the statistical state of the art toward and within the sort of framework discussed above.

PART THREE:

DATA COLLECTION - TYPES OF DATA AND PROCEDURES

In this part of the paper an attempt will be made to set forth in some detail a data-gathering effort capable of serving the broad as well as the narrow concept of financial viability described earlier. It is assumed that, in spite of an emphasis on institutional data, the broader objectives and requirements will be met. As in the world of business, the institution must be the source for relevant data which the analyst may then transform into appropriate information.

A. Procedures

1. The writer knows of no evidence suggesting the necessity for all-institution-embracing surveys. It should be the general policy that in all instances appropriate sampling techniques be employed for the selection of respondents.

In view of the tradition in higher education, it may be appropriate to retain a general all-institution survey of the scope of revenues and expenditures as a means of continuing already-established time series and bench marks. We do not know enough about the specific uses that are made by institutions, State agencies, and others of the data now being collected. We do know, however, that many recent efforts have required the creation of separate data bases from those already established by NCES.

Provided the turn-around can be speeded up (as is the case for the Department of Commerce Survey of Business data), an abbreviated, broad-gauged financial survey may continue to have its uses. But we would assign it a very low priority if appropriately designed sample surveys will be undertaken instead.

2. It should be the policy of NCES to undertake directly or to contract for ad hoc policy studies that require objective analysis and understanding before specific policy recommendations can be expected.

We believe that it could be useful if NCES acted as a catalyst in the collection of relevant data for such studies, particularly when the efforts have been contracted to outside researchers.

3. It should further be the policy of NCES to work actively in the continuing improvement of the nature and scope of PSE statistics. In this respect, NCES should seek the cooperation of other government agencies and of independent research groups who already have a reputation for their expertise in statistical methodology, in theoretical modeling, and in specific subject matters that are relevant to PSE concerns.

4. NCES should not attempt to duplicate some of the on-going data-gathering efforts, particularly those that are by now well-established. We have in mind the work that has been carried out for many years by ACE, the newer studies that are being undertaken by NAICU, and the far-reaching data base effort managed for independent colleges and universities by John Minter, by the several State associations of independent colleges and universities, and by the many State agencies for the public sector.

While we would expect certain similarities and some duplication, it would be our expectation that NCES would tailor its data systems to its own needs, but along some of the lines which will be outlined below.

5. It would also be our expectation that NCES would routinely

analyze the data which institutions are required to report under the various compliance regulations issued by the Department of HEW. By this we do not mean simply that summaries of the reports be prepared, but that the responses be studied with respect to the policies to which they respond.

In addition, NCES could be helpful in assisting HEW in designing survey instruments that are appropriate for the tasks for which they have been created. Following the analyses of data, it may be indicated that certain changes should be made in some of the survey instruments. Such changes should not destroy useful time series, as has been the case all too often.

6. Finally, we believe that it would be appropriate for NCES to develop a publication of high professional stature similar to the Survey of Current Business, The Monthly Labor Review, or other such official journals. Such a publication could serve to enhance the dialogue among scientists, further the state of the art generally, and zero in on special issues such as the one to which this paper is devoted.

B. Types of Data to be Collected for Financial Viability Studies

In this section we shall describe data pertaining to students, to institutional finances, to academic programs and activities, and to some broader industry-wide concerns. Although our final list of specific data elements will be rather large, some essentials may have been left out.

1. Student or Enrollment Data

At present, the Fall Enrollment survey is an extensive and, in principle, useful data gathering effort if one wants to know what

is taking place at the beginning of an academic year.

For an assessment of industry trends and conditions it is important that enrollment statistics summarize annual events, that they reflect the between-term attrition or net changes, and that a basis be created to relate appropriate annual enrollment data with annual financial and other statistics.

A special effort should be made to develop an annualized "financial full-time equivalent" enrollment figure. In the order of comparative size, three enrollment figures tend to be used, often indiscriminately: (a) body count, which tends to be the largest figure; (b) academic full-time equivalent, which is smaller and depends among other things on conversion rates used in the translation of credit hours and part-time students; and (c) financial full-time equivalent enrollment which is the smallest number.

Some observers will assert that (b) and (c) will amount to the same thing, but the evidence does not support this claim. And therefore, in assessing the financial viability of PSE, financial full-time equivalent enrollment becomes the crucial number. For purposes of institutional and statewide planning, furthermore, the reduction ratios that lead from (a) to (b) and from (b) to (c) are useful and essential indicators.

In addition to the usual demographic and test score variables, four enrollment characteristics should be prominently analyzed and reported, since they tend to provide information about qualitative changes: (a) the number of students who have submitted a complete application; (b) the number who have been officially admitted; and (c) the number who have matriculated but have not withdrawn volun-

tarily prior to a specific cutoff time. Some institutions insist that the number of new student inquiries be added to the list, but admissions officers have so many amusing ways of defining an inquiry that one should resist the temptation. The ratios of (b) to (a) and of (c) to (b) represent sound planning indicators of the changing selectivity and marketing problem faced by individual institutions. Retention ratios are another type of basic enrollment indicator.

The foregoing raises an interesting question of whether it would be sufficient to survey institutions by asking for the various ratios or whether it is necessary to ask for the raw data from which the ratios will then be calculated. Since this is an area where the institutions may at times be tempted to "gild the lilly," it may be preferable to ask for the raw data, but to provide space on the form for calculating the ratios.

It has been our recent experience that institutions will almost always change past fall enrollment data when given a chance to verify what they originally submitted. As an incentive for careful data production, participating institutions might be provided a small subsidy similar to the one that used to be available for those institutions providing information for the facilities and space utilization studies of several years ago.

2. Student Aid

In appendix A, exhibits 1 and 2 illustrate a type of survey that we are recommending as an annual or bi-annual endeavor, preferably the former. The data elements address themselves to a number of vital policy issues. Exhibit 1 illustrates what the survey instrument might look like, and exhibit 2 describes an institutional cash

flow analysis that can be derived from it. A number of other types of studies flow from the data provided by the survey instrument.

a. Student Aid Survey Instrument. Once the separate time series have been established, the longitudinal analysis can describe -- among other things -- the changing structure of institutional cash flows from and on behalf of students. Since this will represent in excess of 50 percent of the revenues for independent institutions (in some instances, the figure will go as high as 85 or even 90 percent), the detail adds up to an understanding of a significant segment of PSE finances.

b. Institutional Cash Flow Analysis: Revenue From and on Behalf of Students. For both the survey instrument and the cash flow analysis, some definitional problems will have to be ironed out. Experience tells us that institutional practice differs widely and that, in spite of what some of the audits claim, certain details are not always easy to obtain. The unduplicated number of recipients has caused difficulties in the past, and many colleges appear not to be able to provide separate information on restricted endowment income used and on restricted gifts.

In the past, it has been traditional in studies about student aid to relate it to either tuition and fee revenues or to educational and general revenues. But since it has become general practice to assign student aid in terms of a student's total cost of attending a collegiate institution, it makes more sense for financial viability analysis to try to relate student aid to total student charges, and thus to student-generated revenues that include at least the tuition and fees charged, revenues received from dormitory charges, and revenues from food service operations billed to students. This requirement

apparently causes consternation in many quarters and a certain amount of controversy. Apparently, some institutions cannot come up with the information, which is puzzling when one considers the audit standard requirements, particularly for residential institutions. It is true that some of the existing food service billing arrangements may make it impossible for accountants to identify all receipts from students, and therefore a convention may have to be developed. We have set forth above what we consider to be the ideal information arrangement.

c. Ad Hoc Student Aid Analysis. Among the numerous ad hoc student aid studies that might be undertaken, we should like to mention one that has considerable potential as a long-range planning variable as well as an indicator of changing financial viability.

When one reads the higher education literature, the perception is created that colleges and universities have a specific price which they charge their students. In fact, each college and each university charges numerous prices to those who receive aid and one price to those without aid.

The discount structure varies over time and can be a cause of improving or worsening financial health. We can ask one or all of the following questions and obtain an idea of this discount structure: As a percentage of total student charges, what percentage and number of students provide what percentage of cash flow? What percentage and number of students receive what percentage of aid funded from restricted revenues? What percentage and number of students receive what percentage of aid from unrestricted institutional discounts? If these questions are answered in the form of a decile distribution

of students receiving aid, as pictured in appendix A, exhibit 3, some very worthwhile institutional as well as aggregate information could be obtained which now is generally unknown.

This sort of detail is not easily available and requires a special research effort and perhaps some institutional subsidy. But once the institutions have set up their systems, repeating the survey will become less onerous. As a long-range planning tool as well as an instrument for financial and student-mix analysis, this type of study has built into it considerable versatility and potential.

3. Institutional Financial Condition

Appendix A, exhibits 4 and 5, pulls together a few of the key financial reports capable of explaining the financial condition of a college or a university. The exhibits reflect what a number of institutions have been trying out during recent years, and they illustrate what is being studied in a special research project undertaken by the writer with the support of an EXXON Education Foundation grant.

a. Net Operating Expenditures. Exhibit 4 builds on the traditional college and university finance (current funds) model, but supplements it by identifying certain key line items which are presented in their considerably truncated form. Subject to obvious definitional requirements, the format will be easily understood by accountants. Among its many uses, one will be its application for cost index calculations. In addition, the format will permit interindustry as well as intra-industry comparisons of expenditure structures. The divisions along the horizontal dimension of the table might be refined from time to time in ad hoc studies, such that the sub-functions (Instruction, Student Services, Institutional Support, etc.) can be analyzed in

greater depth.

b. Stages in the Current Financial Condition of Colleges and Universities. Exhibit 4 (lines 1-20) illustrates a type of report that more clearly describes the institutional financial condition than prevailing audit practice and the present HEGIS financial survey are able to do. The form in which we present the concept does not distinguish between "restricted" and "unrestricted" revenues and expenditures, but it would be relatively easy to add this dimension to the table. The same is true for exhibit 4.

The most complicated aspects of the table concern the capital charge on the one hand and the separate line (17) for unrestricted or expendable income. The latter simply refers to gifts and other income that would not be a part of the normal budget because they cannot be easily foreseen or documented in advance, or they may be of a cyclical nature so that they cannot be counted on each year.

The capital charge raises the issue of long-term budget planning for plan renovation, equipment replacement, new equipment purchases, and such annual additions to long-term assets as library acquisitions. These are normal annual budget elements, but institutions differ in how they treat them for purposes of accounting. Often, there exist separate "capital" budgets and all or most of these transactions involve the plant account.

Colleges and universities have coined the term "deferred maintenance" for what is a much broader problem: the lack of adequate cash flows for proper plant and equipment renewal and, directly or indirectly, inadequate new equipment budgets.

Another aspect of the issue -- and it is more and more often

seen in this light -- is the capital depreciation dimension. Some colleges and universities are incorporating depreciation charges into their annual budgets. Financial adequacy or viability would thus include a concern for enough annual revenue in support of such depreciation charges. Unfortunately, on the whole, the charges are small and assume very long time spans for capital renewal.

But whichever the point of view or approach, a separate capital charge illuminates the nature and structure of a given budget. The first page of exhibit 5 spells out in greater detail what this is all about. Whether one agrees with the notion of a bottom line or not, governing boards are entitled to know whether or not their institution has produced adequate cash flows during the year and over longer periods. The issue is not whether revenues balance out expenditures or vice-versa; the issue is whether the institution is able to function properly. This exhibit may not be the last word on the subject, but it at least illustrates the type of data-gathering thrust we believe should be initiated on a broad enough scale to enable analysts and policy makers to begin a dialogue on just how viable are institutions of PSE and the industry as a whole.

c. Changes in Fund Balances, Expendable Reserves, and Other Institutional Indicators. The last part of exhibit 5 (lines 21-29), contains a list of items that further help in clarifying the financial condition of institutions as well as of the industry. Some of the variables follow traditional accounting practice. Others are pointing toward quality indicators.

We believe that exhibit 5 illustrates an area of data gathering

and research where NCES might act as a catalyst among many groups in an effort that eventually produces a growing consensus on types of indicators designed to describe the behavior and evolution of the industry. The coalition work undertaken recently by ACE in this respect appears to be very promising. It is too early to expect an authoritative list of variables and ratios for which surveys should be conducted. Exhibit 5 merely illustrates what we have in mind. A major theory-building effort is required before we can be satisfied that the right elements are being measured.

Of special significance may be the work recently started by the National Center for Higher Education Management Systems (NCHEMS) on productivity in higher education and on educational outcomes. Some of the data elements identified in exhibit 5 are perhaps terribly perfunctory, and the NCHEMS work is pointing to a variety of sophisticated variables about which relatively little is known today. We believe that NCES has a stake in assisting and facilitating the development of models which in turn will be the basis for future ongoing data gathering.

d. Additional Comments on Types of Analyses. The definition of financial viability set forth earlier in this report makes it very difficult to spell out in detail what types of analyses may be required. We have suggested several broad policy issues in part two. Each would permit or require a number of different kinds of analysis. Although the point of view may differ depending on whether we are confronted with Federal or State policy issues or with institutional concerns, often the analysis may in fact be the same. The preceding tables and illustrations already suggest very specific calculations.

In the remaining pages of this paper, we shall limit ourselves to some additional references and examples.

1. Federal Policy Issues and Related Analyses

NCHEMS was asked a few years ago to convene a conference at Keystone in order to identify a research agenda that might be the basis for future policy analysis and guidance at the National Institute of Education (NIE). Later, NIE reviewed and refined the Keystone Report. More or less independently, but also in response to NIE interest, a coalition of professionals in higher education research was asked to put together a similar policy research agenda. ERIC was designated as the editor of the documents that were assembled under this effort. On a narrower plain, NCHEMS has submitted to NIE its own research agenda and program in its direct relationship to NIE as a Research Center.

Common to all of these NIE-inspired efforts was in part an interest in research pertaining to institutional finances and management. Generally, the point of view for research to be undertaken in this area remained relatively narrow and centered on institutional health. But here and there the broader dimensions suggested in part two of this paper are mentioned. We believe that the agenda papers referred to should be studied carefully. We doubt that we could add much more than is already contained in them.

Nevertheless, it may be useful to touch on a few examples of policy research that may become useful during the next several years in view of some of the demographic developments that are beginning to have their impact on inter-collegiate competition (by which we do not mean sports).

a. Access, Choice, and Pricing. Enough time and money has been invested in student aid at the Federal and State level to enable researchers to investigate not only how the original policy objectives have been implemented, but how well the policy objectives have been achieved.

NAICU has begun a major effort toward finding answers for the independent sector of higher education; to date, there does not appear to exist a comprehensive effort encompassing independent and public institutions. Furthermore, since the NAICU is concentrating on higher education, it would seem to be appropriate and timely to include other PSE segments in the analysis.

The NCFPSE report contained some information on income distribution and attendance in higher educational institutions. At the time, the work was severely handicapped by a lack of information. It may be time to make another effort at a serious study describing the distribution of PSE attendance or enrollments that emphasizes such things as the racial, ability-to-pay, and preferred program mixes throughout the system rather than merely at the higher education level.

Finally, it would seem to be timely to think about research that assesses the broader connotations of the PSE concept, describing the nature, present scope, and future potential of the industry from a variety of points of view and in terms of several specific policy questions. Such a study could be helpful, for instance, in developing public policy proposals to fight teenage unemployment.

b. Productivity in PSE. The productivity issue will not go away, and its ramifications are numerous in an age that worries about inflation but does not know how to measure it properly in service

industries. We sometimes say that our present measuring devices are the best in existence, however imperfect they may be; this should not be viewed as much of a consolation when we consider both the large sums of money that are at stake and the nature of what we are looking at: to wit, the education of our national manpower and citizenry.

June O'Neill claimed that her studies show no significant improvement in higher education productivity between 1930 and 1967; she may be correct but admits that she does not know how to account for quality improvements that may have taken place. A concerted effort to study the productivity question in education would not only seem to be a timely undertaking, but a crucial one whose impact would go far beyond education.

c. The Cost of Complying with Federal and State Legislation and Administrative Regulations. NCES has recently announced that it would study potential compliance costs stemming from legislation concerning the handicapped on campuses. There is a need for more comprehensive studies of compliance costs which are having a generally inflationary impact on college and university student charges and on collegiate budgets. The model for a broader study could be the one undertaken a few years ago by ACE. It might be useful to include the regulatory impact of the States, about which relatively little is known.

d. Capital Requirements. PSE institutions are experiencing a significant capital shortage. This is not for funds for new plant projects, the demand for which has been declining somewhat. The shortage exists in replacement and renovation funds, as we have mentioned above.

Our earlier exhibits have been designed in part to help provide answers in this area. It is estimated that when we take into account a relatively slow 50-year depreciation based on original costs, all

but a handful of institutions would be running annual deficits. This under-financing is a serious matter affecting the quality of current and future educational output.

Given the peculiarities of thought and accounting practice in higher education, this phenomenon hardly ever surfaces except through the euphemism of "deferred maintenance." G.R. Wynn and I once estimated the problem for 48 four-year liberal arts colleges and discovered that the total 1970 capital requirement exceeded $30 million for the group at original cost and over $46 million when adjusted for building cost inflation.

2. State Policy Research

Based on what has been written above, it is our recommendation that studies be undertaken which describe (a) how the various Stateplanning procedures are functioning and (b) how the States are dealing with the public-private college and university issue set forth earlier.

Of special use would be some specific projections of individual college enrollments in those States where there is a significant population of independent colleges. Two types of projections might be attempted. First, it would be useful to provide information on how expected undergraduate enrollments will affect public and private institutions, other things being equal. Second - and this is probably a more significant project - studies might be initiated for estimating the financial impact on groups of institutions, public and private, of certain specific assumed enrollment trends.

State-wide planning might furthermore be given a boost by surveys of institutional plans, both public and private, in order to submit these plans to some critical analysis by studying their aggregate

impact. Rather than the recent projections of higher education enrollments, revenues, and expenditures published by NCES, Federal and State policy might be served best by a series of impartial analyses of existing plans in order to determine whether they add up to a feasible total solution and to identify total funding requirements; or to determine whether the sum of the plans represents, at best, an illusion and, at worst, a set of activities that put into question the existence of key PSE segments.

A special problem area in State-wide planning, as mentioned above, is the budgeting process and, particularly, the several funding approaches or formulas used to assign tax revenues to educational institutions and students. Every research agenda this writer has seen seems to contain recommendations for projects -- ad hoc or continuing ones -- that describe and evaluate existing practices and, when appropriate, recommend improvements.

There is a role in Federally sponsored research vis-a-vis State-wide planning efforts, particularly with respect to the implementation of National PSE policy.

3. The Institutional Perspective

The exhibits contained in part three, section II, speak amply to the institutional perspective. It is our belief that a national data gathering effort which focuses on financial viability in both the broad and narrow sense used in this paper need not have a primarily institutional perspective, except in order to elicit information about institutions that will be germane for National and other policy information.

From time to time, the Congress will be interested in the survival

of a specific institution in PSE. This writer believes that this is an inappropriate concern except where it involves the military academies and other educational institutions that belong to the Federal Government. But since the Congress will not necessarily agree with this view, we should at least hope that educational concerns rather than financial survival will be central to the decision.

In conclusion, we should like to mention one type of study that might be sponsored vigorously at some Federal or State level, but with an essentially institutional frame of reference: investigations designed to determine how specific colleges and universities carry out their missions, how they engage in planning, and which of their management activities seem to work and which do not appear to work.

This type of investigation will probably not contribute much to Federal and State PSE policy, but might help advance the art and science of PSE management and thus limit the need for the financing of PSE institutions with tax monies. In this sense, the responsibility for the research will most likely not be with NCES but with HEW.

APPENDIXES

A. Sample Data Collection Aids

B. Summary of Literature

C. Bibliography

APPENDIX A: EXHIBIT 1

STUDENT AID QUESTIONNAIRE

Academic Year _____

I. GENERAL INFORMATION

A. Body Count Enrollment	_____	G. Veterans Enrolled	_____
B. Academic FTE	_____	H. Children of Veterans	_____
C. Financial FTE	_____	I. Number Receiving OASDI	_____
D. Total Student Charges	$ _____	J. Number on Vocational Rehabilitation	_____
E. Tuition & Fee Charges	$ _____	K. Unduplicated Number Receiving All Types of Aid Awards	_____
F. Total Student Budget (CSS)			
For Residents	$ _____		
For Commuters	$ _____		

II. SOURCES OF FUNDS TO STUDENT AID, SCHOLARSHIPS, FELLOWSHIPS, ETC.

	Undergraduate		Graduate		Total	
	Number of Awards Made*	Total $ Amount of Awards	Number of Awards Made*	Total $ Amount of Awards	Number of Awards Made*	Total $ Amount of Awards
A. Restricted Funds:						
1. Endowment Income						
2. Gifts & Grants, Admin. by College						
3. State Aid						
a. To Institution						
b. To Student from College's State						
c. To Student from Other States						
4. Federal Appropriations						
a. BEOG						
b. SEOG						
c. LEEP						
d. Other Grants						
5. All Other Restricted Sources						
6. Total Awards from Restricted Sources						
B. Grants from Unrestricted Instit. Funds						
C. Total Awards and Dollars						
D. Tuition Remissions (fee waivers, discounts) not included in C. Explanation of D:						

III. WORK

A. CWSP (Federal Share)						
B. Total Work Study Expenditures (Including Institutional Matching Funds)						
C. Non-Work Study Student Payroll (Exclusive of above)						
D. Total Work Programs Awards and Dollars (B+C)						

IV. LOANS

A. NDSL (Include 1/9 Institutional Contribution)						
B. FISL-GSL: Institutional Funds Only						
C. Other Loans from Institutional Funds						
D. Total Loans (A+B+C)						
GRAND TOTALS (II-C + II-D + III-D + IV-D)						

V. SOURCES OF INCOME FROM STUDENTS

A. Gross Tuition and Fees	$ _____
B. Student-generated Income from Dormitories	_____
C. Student-generated Income from Food Services	_____

*Number of students receiving awards from each source.

APPENDIX A: EXHIBIT 2

NET CASH FLOW ANALYSIS FROM / FOR STUDENTS

	A	%	B	%	C	%
A. Revenue from Student Charges:						
a. Gross Tuition and Fees	$1,768,000	68.5	$4,175,000	71.0	$5,808,000	72.3
b. Dormitory Fees	310,000	12.0	575,000	9.8	886,000	11.0
c. Food Service Fees	504,000	19.5	1,130,000	19.2	1,335,000	16.7
Subtotal A.	2,582,000	100.0	5,880,000	100.0	8,029,000	100.0
B. Student Aid Income (Restricted)						
a. Endowment	15,000	3.3	45,000	11.5	252,000	36.2
b. Gifts	67,000	14.5	76,000	19.4	75,000	10.8
c. State Appropriations--Student Aid	341,000	74.0	-0-		204,000	29.3
d. Federal Grants--SEOG, BEOG	38,000	8.2	271,000	69.1	166,000	23.7
e. Other						
Subtotal B.	461,000	100.0	392,000	100.0	697,000	100.0
C. Expenses for Student Aid Grants						
a. Funded (Or Restricted)	461,000	82.9	392,000	59.0	697,000	46.1
b. Unfunded	95,000	17.1	272,000	41.0	815,000	53.9
Subtotal C.	556,000	100.0	664,000	100.0	1,512,000	100.0
Net Total: (A + B) - C =	$2,487,000	96.3% of A	$5,608,000	95.4% of A	$7,214,000	89.8% of A
D. Work Study						
a. Revenues	14,147		79,529		47,000	
b. Expenditures	17,684		99,411		59,000	
E. Loans						
a. Institutional	1,229		15,000		24,400	
b. NDSL	81,841		110,000		192,000	
c. FISL	NA		NA		161,000	
d. Other			15,000		-0-	
F. Enrollment						
a. Body Count	856		NA		1,970	
b. FTE Academic (On campus only)	840		NA		1,817	
c. FTE Financial (On campus only)					NA	
G. Operating Budget						
a. Current Operating Revenues	3,927,000		NA		NA	
b. Current Operating Expenditures	3,883,000		NA		NA	
Operating Surplus/Deficit	$ + 44,000					

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APPENDIX A: EXHIBIT 3

Internal aid all sources as percent of total student charges	Recipients Number	Recipients Percent	Student aid per student	Cash flow per student
100 or more				
90 - 99				
80 - 89				
70 - 79				
60 - 69				
50 - 59				
40 - 49				
30 - 39				
20 - 29				
10 - 19				
1 - 9				
No aid				
Miscellaneous				
Mean aid				

NET OPERATING EXPENDITURES

	Total	Educational and General	Auxiliary Enterprises	Other
1. Faculty Salaries:				
a. Regular Session				
b. Library				
c. Summer School				
2. Subtotal (a, b, c)				
3. Officer Salaries				
4. Other Salaries & Wages				
5. Student Wages				
6. Critic Teachers				
7. Room and Board				
8. Benefits				
9. Tuition Benefits				
10. Professional Services				
11. Subtotal (1 - 10)				
12. General Support Costs				
13. Maintenance				
14. Utilities				
15. Food				
16. Miscellaneous				
17. Annuities				
18. Subtotal (12 - 17)				
19. Credits				
20. Subtotal (18 - 20)				
21. Total Net Operating Expenditures				

APPENDIX A: EXHIBIT 4

APPENDIX A: EXHIBIT 5

SUMMARY OF FINANCIAL CONDITION

Academic Year _____

	Total	Educational and General	Auxiliary Enterprises	Other
1. Student Fees				
2. Minus Student Aid Grants				
3. Net Revenue From Students				
4. Endowment Income				
5. Work Study				
6. Auxiliary Enterprises				
7. Miscellaneous				
8. Gifts for Operations				
9. Subtotal				
10. Total Net Operating Revenue				
11. Total Net Operating Expense				
12. Net Revenues From Operations				
13. Minus Interest on Debt				
14. Net Revenue Before Capital Charges				
15. Capital Charges				
a. Library Assets, New				
b. New Equipment				
c. Debt Repayment				
d. Plant Improvements				
e. To Plant Reserve				
f. From Plant Reserve				
g. Subtotal				
16. Surplus/Deficit before Other Sources				
17. Other Unrestricted Revenues				
18. Surplus/Deficit				
19. Transfers:				
a. To (-) or From (+) Plant Reserve				
b. To (-) or From (+) Educational Reserve				
c. To (-) or From (+) Quasi-Endowment				
d. Other Transfers				
20. Unallocated Balance				

SUMMARY OF FINANCIAL CONDITION

Academic Year _____

	Total	Educational and General	Auxiliary Enterprises	Other
21. Reserve Fund Balances:				
a. Plant Reserve				
b. Educational Reserve				
c. U.S. Govt. Bldg. Bond Reserve				
22. Fund Balance (without 21):				
a. Unrestricted				
b. Restricted				
c. Expendable				
23. Other Indicators and Adjustments:				
a. Inflation Effect (lines 1-12)				
b. Productivity or Enrollment Effect (1-12)				
c. Student Loan Delinquency				
d. Endowment Total Return				
e. Endowment Inflation Adjustment				
24. Total Net (Constant $) Change in Fund Balances				
a. Without Plant Investment				
b. All Funds				
25. Instruction:				
a. Number of Departments				
b. Size of Staff by Department				
c. Number of Departmental Offerings				
1) Types of Major Programs				
2) Number of Courses				
3) Other				
d. Percent of Institutional Budget				
e. Number of Degrees Granted At:				
1) Each Level				
2) Each Department				
26. Research:				
a. Staff Actively Engaged in Prod. Research				
b. Number of staff				
1) Number of Grants				
2) Size of Average Grant				
c. Number of Projects, Reports, Publications				
d. Percent of Institutional Budget				
27. Public Service:				
a. Staff Actively Engaged				
b. Number of Activities				
c. Percent of Institutional Budget				
d. Number of Degrees Granted At:				
1) Each Level				
2) Each Department				

SUMMARY OF FINANCIAL CONDITION

Academic Year _____

	Total	Educational and General	Auxiliary Enterprises	Other
28. Personnel:				
a. Staff Compensation				
b. Competitive Ranking AAUP Scale				
c. Number of Employees				
d. Teacher to Student Ratios				
e. Researcher to Student Ratios				
f. Administrative Staff to Student Ratios				
g. Clerical Personnel (nos.)				
1) To Student Ratios				
2) To Staff Ratios				
h. All Other Personnel to Student Ratios				
29. Morale				
a. Work Load				
b. Teaching Load				
Other				

APPENDIX B

SUMMARY OF THE LITERATURE

A first glance at the literature concerning data collection for higher education finance reveals that most of the work available is a variation on the same theme -- the development of a systems approach to management. A closer look reveals that, while the first impression is accurate, the range of inquiry is somewhat broader and includes some valuable criticism both of how systems are developed and of the concept of the application of management information systems to higher education.

The National Center for Higher Education Management Systems (NCHEMS) seems to contribute to the literature the most in both amount and importance. Its work emphasizes the importance of cooperative efforts among institutions, and between institutions and government agencies.

NCHEMS develops a comprehensive management information system in which participating institutions use common data elements. The system is designed to aid institutions in the effective allocation of resources, and to provide data for comparison on a regional basis. NCHEMS's Data Element Dictionaries guide the development of institutional data bases, and its Information Exchange Procedures allow for comparisons by cost. NCHEMS also encourages dialogue on the fundamental questions concerning the limits of information and how and where it should be gathered.

A number of other authors contribute a variety of models and systems to the field. A survey of this work reads like the syllabus for a graduate seminar in business administration: cost effectiveness, program budgeting, simulation models, systems analysis, computer systems, planning, resource allocation, and management information systems. The concepts, taken largely from business, are modified to apply to higher education. Some articles

raise the issues of the limits of the applicability of these concepts as well as the essential differences between business operations and educational institutions.

Most of the system developers adopt an institutional point of view and address the needs of the college or university. Some approach the issue from a funding source perspective and ask what information the State agencies and foundations need. While the two approaches are not necessarily mutually exclusive, NCHEMS is one agency strongly advocating their merger.

The balance of the literature consists of a smattering of texts, data sources, and alternative viewpoints. The limited amount of material of this nature indicates that the field is still young. The literature expressing alternative views raises some mild controversies: is the system developer putting his needs before the needs of the decision-maker, and can participatory management solve some of the information problems facing administrators?

There appears to be relatively little information on the specific question asked by this paper, with the exception of the Second Newman Report and papers on the subject of financial reporting.

The following is a comprehensive review of literature on data collection for higher education finance and related subjects.

Andrew, Loyd D. Enrichment Analysis -- "A Technique for Encouraging Better Planning and Better Use of Resources." Presented at Conference of California Association for Institutional Research, 1973.

Description of enrichment analysis which shows not only the rate of increase in cost per student by department and program, but also how resources were allocated within programs. Brief description of the development of the analysis and data requirements.

Annual Report of the South Carolina Commission on Higher Education. Columbia, S.C., 1972.

Twelve brief reports, one of which discusses progress toward further implementation of a Statewide management information system.

Aughinbaugh, Lorine, A., et al. "Development of Procedures to Implement EOPS Cost Effectiveness Standards Model and Continued Evaluation of these Procedures by Selected Community Colleges during the 1974-75 Academic Year." EOPS Special Project 74-101. Northern California Community Colleges Research Group, Sacramento, 1975.

A cost effectiveness study for California community colleges; includes recommendations for the implementation of cost effectiveness formulae.

Bailey, Stephen K. "Facing the Accountability Crunch." Planning for Higher Education, June 1973.

Emphasis on management information systems and the limits to accountability.

Budget and Accounting Manual: California Community Colleges. Office of the Chancellor, California Community Colleges, Sacramento, 1974.

An activity-centered approach to expenditure reporting which describes real resource requirements, their costs, and relative use in each of the major activities of community college operations.

Byers, Bruce B. "A Management Information System for a Community College." Educational Projects, Inc., Pittsburgh, Pa., 1973.

A modular system and data base with the following components: student, personnel, financial, facilities, and community information.

Cope, Robert G., Ed. "Proceedings of the Association for Institutional Research, St. Louis, Mo., 1975."

Proceedings include 83 papers and 24 abstracts in 13 categories including: planning and management analysis; financial analysis; decision strategies for management; program budgeting; State level planning and analysis; and simulation models and management information systems.

Dan, Robert L. "Management Data Base Development." National Association of College and University Business Officers, Washington, D.C., 1975.

A management data base is seen as essential for a management information system, program budgeting, program costing, management by objectives, program evaluation, productivity measures, and accountability in institutions of higher education. The necessity

of a management data base is addressed, along with the benefits and limitations it may have for a given institution, and its development, maintenance, and use in both operating systems and management systems. Methods for implementing a data base system are described. Plans for developing a computerized system are also addressed. It is suggested that at the time a data base system is implemented, any existing applications that are not adequate or that need improvements should be redesigned to ensure improved technology in both data entry and retrieval.

"The Development and Implementation of CAMPUS: A Computer-Based Planning and Budgeting Information System for Universities and Colleges." Systems Research Group, Toronto, Canada, 1970.

System with the following elements: computer-based simulation model; planning, programming, and budgeting system; master planning system; and integrated management and planning information system.

Dober and Associates, Inc. Matrix for Planning. Belmont, Mass.: Dober and Associates, Inc., 1975.

Organized format for recording information relevant to the formulation of long-range planning policies and decisions for Massachusetts community colleges.

The Economics and Financing of Higher Education in the United States, A compendium of papers submitted to the Joint Economic Committee, Congress of the United States, 91st Congress, 1st Session, U.S. Government Printing Office, Washington, D.C., 1969.

Papers cover a variety of issues from the Federal perspective; topics include equity and efficiency, planning, alternative Federal financial aid programs, and the criteria for public investment.

Gaither, Gerald H. "Effects of Data Base/MIS on University Fiscal Management." AEDS Journal, Winter 1977, 37-48.

Examination of the management information system concept and its implications for university fiscal management.

Glasscock, David G. and McKeown, Mary P. "Participative Management: Its Place in Effectively Planning and Allocating an Institution's Data Processing Resources." College and University Systems Exchange, Boulder, Colorado, 1976.

Faced with decisions on how to most efficiently and effectively store and process information in a variety of administrative and educational areas, the educational manager is hindered by a lack of relevant literature. This paper suggests that the theory of participative management can be used to reach effective decisions in planning and allocating resources for data processing. Case studies of the use of participative management in making decisions related to data processing installations and management within a university environment are presented in this paper. Hints for applying this technique are given to assist other educational administrators in the effective allocation of scarce institutional resources for data processing.

Gleazer, Edmund Jr. and Yarrington, Roger, Editors. Coordinating State Systems. New Directions for Community Colleges, No. 6. Jossey-Bass, Inc., Publisher, San Francisco, 1974.
Articles focusing on cooperation, information exchange, and coordination in institutional research and data collection.

Goddard, Suzette, et al. "Data Element Dictionary, Second Edition." Technical Report No. 51. Western Interstate Commission for Higher Education, Boulder, Colorado, 1973.
This document identifies data elements, many of which specify institutionally defined categories.

Gubasta, Josepha L. and Kaufman, Norman. "Developing Information for Academic Management: An Alternative to Computer-Based Systems." Journal of Higher Education, July/August 1977, 401-11.
Discussion of alternative approaches to computer information systems; emphasis on needs of decision-makers rather than system developers.

Gulko, Warren W. "Program Classification Structure." Western Interstate Commisison for Higher Education, Boulder, Colorado, 1970.
Systems Program to help develop improved management systems and methods of resource allocation. Related goal to develop procedures which facilitate exchange of comparable data among institutions.

Hentschke, Guilbert C. Management Operations in Education. McCutchan Publishing Corporation, Berkeley, Calif., 1976.
This book intends to acquaint students and professionals in educational management with those activities in educational organizations requiring technical, business-related competence, and with selected management tools.

Hershberger, Ann M., et al. "The Development of the Data Base for Student Aid: Description and Options." Stanford Research Inst., Menlow Park, Calif., 1975.
Discussion of the problems involved in the development and organization of data sources; indicates the arbitrary decisions necessary in building a data base from existing sources of information.

Huff, Robert A. "Program Budgeting at Micro-U." Western Interstate Commission for Higher Education, Boulder, Colorado, 1970.
Illustration of the application of WICHE's basic Management Information System concepts.

Judy, Richard W. "A Research Progress Report on Systems Analysis for Efficient Resource Allocation in Higher Education." Toronto Univ., Canada, 1970.
Report describing the major projects undertaken by the Institute for Policy Analysis of the University of Toronto.

Keene, T. Wayne. "A Study of the Feasibility of Implementing the CAMPUS Planning Model." University of South Florida, Tampa, 1974.

A description of CAMPUS PMS including the nature, output provision, component structure, and file input requirements of the model.

Kohrman, Robert E. "Academic Planning: Problems and Possibilities." American Council on Education, Washington, D.C., 1975.

Advocacy of planning systems for higher education management.

Kroepsch, Robert H, Editor. "Legislative Decision Making in Higher Education: How to Get the Facts." Western Interstate Commission for Higher Education, Boulder, Colorado, 1972.

This conference report on legislative decision-making in higher education is primarily concerned with the financing of colleges and universities. Management systems information is provided, and sessions were held on "How can a State tell whether or not it is getting its money's worth?" and "How to allocate funds for various segments of higher educaiton." However, all of the sessions did not deal with dollar questions. Other topics that captured the interest of the more than 200 legislators, educators, and government officials included: (1) relevance in higher education; (2) academic freedom and alternatives to faculty tenures; (3) the primary functions of a State board of higher education; (4) who determines an institution's role and objectives; and (5) facts about WICHE with particular emphasis on its Student Exchange Programs.

Mann, Richard L., et al. "An Overview of Two Recent Surveys of Administrative Computer Operations in Higher Education." Western Interstate Commisison for Higher Education, Boulder, Colorado, 1975.

Provides higher education administrators with a general picture of current trends so that they can compare their efforts and plans with these trends.

Manning, Charles W. and Huff, Robert A. "A Prospectus on the NCHEMS Information Exchange Procedures Implementation Project 1974-75." Western Interstate Commission for Higher Education, Boulder, Colorado, 1974.

IEP (Information Exchange Procedures), developed by the National Center for Higher Education Management Systems, is a set of standard definitions and procedures for collecting institutional information related to: costs of disciplines and degree programs, outcomes of instructional programs, and general institutional characteristics. This prospectus describes IEP by answering the following questions: (1) What is IEP? (2) How was IEP developed? (3) What are the components of IEP? (4) How have institutions used IEP information? (5) How does NCHEMS support the implementation process, and what costs are incurred by an institution? (6) How does an institution become involved in the IEP implementation project? (7) What source materials are available for IEP?

Martin, James S. Data Element Dictionary: Finance, Second Edition. Western Interstate Commission for Higher Education, Boulder, Colorado, 1972.

This document is intended to serve as a guide for institutions in the development of data bases to support the implementation of planning and management systems. It identifies and describes those finance-related data elements: (1) required to support current National Center for Higher Education Management Systems (NCHEMS) products; (2) anticipated as being required for future NCHEMS products; and (3) commonly maintained by institutions for operational and reporting purposes. It should be emphasized that the data categories and definitions suggested represent common usage except in those identified instances for which accepted national standards exist.

Newman, Frank, et al. The Second Newman Report: National Policy and Higher Education. Report of a special task force to the Secretary of Health, Education and Welfare. M.I.T. Press, Cambridge, Mass., 1973.

Objectives and Guidelines of the WICHE Management Information Systems Program. Western Interstate Commission for Higher Education, Boulder, Colorado, 1969.

The Western Interstate Commission for Higher Education (WICHE), responding to a need for systematic data collection and utilization for the effective management of increasingly complex institutions of higher education, appointed a design committee to develop conceptual framework and guidelines for a management information systems project. The recommendations of this committee of representatives from institutions of higher education and State agencies in the West were reviewed and accepted by a larger representative committee. The substance of this report constitutes the basic recommendations of the design committee. The WICHE Management Information Systems Program is a regional cooperative 5-year project to encourage the development of management information systems with common data elements in institutions of higher education. The purpose of the information systems and data bases is to improve the capability of local institutions and agencies to allocate resources more effectively, and to provide comparable data from throughout the region and elsewhere on the cost of instructional programs by level of student, level of course, and field of study. The report presents the objective, planned and anticipated phases of the project, and descriptions of data requirements for effective decision-making on the allocation of resources.

Padley, John. "Management and Decision-making in Universities: A Quantitative Approach." Educational Administration Bulletin, Summer, 1972, 17-21

A search for more comprehensie management information systems to assist decision-makers.

Palola, Ernest G., et al. "Program Effectiveness and Related Costs (PERC): An Overview." State University of New York, Saratoga Springs, 1975.

A discussion of the PERC model pointing out certain minimum tasks that must be completed to build relationships between program effectiveness and related costs.

Parden, Robert J., Editor. "An Introduction to Program Planning. Budgeting and Evaluation for Colleges and Universities." The Proceedings of a Conference. Santa Clara University, California, 1970.

Conference covering four objectives: define program budgeting, interpret the vocabulary of systems analysis, identify the range of levels of involvement, and appraise the current use of program budgeting.

Parden, Robert J. "Rationalizing Management Information System Costs." College and University Systems Exchange. The Managerial Revolution in Higher Education: The Role of Information Systems. Boulder Colorado, Dec. 1976. (Arlington, Va.: ERIC document reproduction service, microfiche number ED-146945.)

This paper examines the proposition that management information systems (MIS) for colleges and universities are not achieving their original objectives of supporting better managemnet decisions by providing more and better information in a more timely manner. As a consequence, the MIS activity should be reduced in scope, and standardized to achieve lower costs. The resources that are released can better be used to sustain institutional viability. The basics these set forth are (1) MIS is a good idea, but ahead of its time; (2) MIS was a solution for a little understood problem; (3) colleges and universities are not time-dependent like business; (4) "better management" should not be confused with policy decisions; (5) MIS was a help for yesterday's centralized planning; (6) information collected and stored has no value unless used; (7) it's never too late for a comprehensive organizational analysis; (8) standardization of common operating procedures on a national basis is one route to lower campus information costs; (9) whether orderly or chaotic, retrenchment will occur.

Planning: Two Year Colleges. Ohio Board of Regents, Management Improvement Program, Columbus, 1973.

One of five manuals designed to improve management practices in Ohio two-year colleges. Includes a discussion of the planning process and a bibliography of planning literature.

"Postsecondary Education Issues: Visible Questions Invisible Answers." Western Interstate Commission for Higher Education, Boulder, Colorado. Proceedings of the 5th NCHEMS National Invitational Seminar, 1974.

With some justification, the inability to answer most of the important questions in higher education is due to the lack of necessary information. But careful examination of our many faceted questions suggests that more information may not be the only answer. The National Center for Higher Education Management Systems (NCHEMS) has found other aspects to the postsecondary information problem.

First, a huge communication gap often looms between those asking the fundamental questions and those in the best position to answer them. Second, information resources do exist, collected either by individual researchers for purposes of investigating a relatively narrow specific aspect of postsecondary education or for purposes not directly related to postsecondary education. The NCHEMS believes these data can be used in postsecondary education decision-making much more extensively than they have been used in the past. In pursuit of this hypothesis, NCHEMS called together people with unique knowledge of information needs and information availability at all levels: Federal, State, and institutional, both inside and outside the postsecondary education community. This document presents seven major papers delivered by these people at a seminar, and includes responses to each paper.

Purves, Ralph A. and Glenny, Lyman A. "State Budgeting for Higher Education: Information Systems and Technical Analyses." Center for Research and Development in Higher Education, University of California, Berkeley, 1976.

An overview of the trends in information and analysis activities typifying each of the State budget agencies in 17 States. Includes the principal style of budget review; considers the steps involved in setting up a State-level information and analysis system.

Romney, Leonard C. "Information Exchange Procedures: Overview and General Approach." Western Interstate Commission for Higher Education, Boulder, Colorado, 1972.

The Information Exchange Procedures (IEP) project creates the capability for exchange and reporting of that information, both financial and otherwise, necessary to calculate and evaluate costs (1) by discipline and course level, (2) by student major and student level, and (3) per unit of output. Most uses of comparable information and analysis can be grouped into three management functions: resource acquisitions, resource allocation, and planning and management. The major benefits of comparative analysis come from determining why differences exist. Principles used to guide efforts in this area indicate the collected data should be useful to the decision-making and planning process of postsecondary education, the conventions and procedures for aggregating the data must be uniform and acceptable, and the reporting and exchange should involve two-way communication with built-in feedback mechanisms. The two phases of the project are concerned with direct costs and full or allocated costs.

Rice, Gary Alan. "Implementing a Resource Requirements Prediction Model in Community Colleges." Ph.D. Dissertation, Washington State University, 1974.

An examination of RRPM concluding that the computer-based long-range prediction model was an efficient, flexible, accurate, and economical way of simulating a variety of alternative conditions.

Sandin, Robert T., Editor. "The University as a System." Educational Comment, University of Toledo, Ohio, 1974.

Four articles advocating the systems approach as the most practical way of dealing with the complex problems of university planning and administration.

Schroeder, Roger G. "A Survey of Management Science in University Operations." Management Science, April 1973, 895-906.

Discussion of applications and research of the management sciences in institutions of higher education.

Singell, Larry D. "The Problem of Obtaining and Using Resources in Education: Some Proposed Programs for Purposive Change." National Institute of Education, Washington, D.C., 1971.

Advocacy for change involving significant expansion of Federal financing for education, decentralization of the administration and control of schools, and the creation of regional centers for education research, training, innovation, and information.

Smith, Stuart C. Organizations in Educational Administration: A Directory of Information Sources. Oregon University, Eugene, 1968.

To assist searchers in the acquisition of information related to educational administration. 102 organizations working in the field are listed, including U.S. Office of Education-funded regional laboratories and research centers, university research and service-bureaus, and independent organizations. Each listing includes the organization's name and address, policies for supplying informational material, geographical area served, and specific subject areas within the organization's range of interests. A subject index of over 200 terms is cross-references with the organizational index.

State Postsecondary Education Profiles Handbook, 1977 Edition. Education Commission of the States, Denver, Colorado, 1977.

Information on postsecondary education in the 50 States and the District of Columbia is organized in four main parts: (1) narrative description of the State-level coordinating or governing agency, institutional governing boards, current master planning activities, the 1202 commission, State student assistance agency or agencies, State board of vocational education, State-level organization for private colleges, State licensure or approval agencies, committees for articulation between elementary-secondary and postsecondary education, statutory advisory committees, and nongovernmental public/private college organizations; (2) descriptive statistics including 1974-75 information about State population and trends, State and local finance base, State and local governmental spending on higher education and in general, student demand, institutional program mix, faculty support and load, diversity of funding sources, and student tuition and fees; (3) annual and biannual reports available and recent special reports and studies;; and (4) special reports and studies currently underway or planned.

Thomas, Charles R. Data Element Dictionary: Finance. A Technical Report Concerning Finance Related Data Elements in the WICHE Management Information Systems Program, 1st Edition. Western Interstate Commission for Higher Education, Boulder, Colorado, 1970.

This document is one of the 5 sections of the Data Element Dictionary developed as part of the WICHE Management Information Systems (MIS) Program. The elements in this section apply to both the current and historical data concerning finance. The purpose of the WICHE MIS Program is to make it possible to derive data which will be truly comparable for interinstitutional comparisons, while allowing institutional autonomy in such matters as coding and file structure. One of the major purposes of this section of the Dictionary is to obtain longitudinal data depicting changes in characteristics over a period of time. The criteria for inclusion of data elements are: (1) necessary for completion of Higher Education General Information Survey (HEGIS); (2) likely to be needed for the Student Flow Model, cost exchange procedures, and the Resource Requirements Prediction Model; (3) necessary to link operational files together for the derivation of information; and (4) basic to institutional record keeping. The data elements are: (1) fund group; (2) source of funds; (3) organizational unit; (4) account number; (5) program identification; (6) functional classification; (7) object classification; and (8) dollar amount. A number, title, description, and comments define each data element. In addition, the anticipated utility of each element is indicated.

Thompson, Donald L. "PPBS: The Need for Experience." Journal of Higher Education, November 1971, 678-91.

Discussion of the problems institutions of higher education encounter in opening for discussion the inner workings of the system designed to allocate resources and evaluate performance.

Welch, James A. and Jackson, Linda M., Editors. Education Data Elements Dictionary. Institute for Services to Education (DHEW), Washington, D.C., 1973.

Higher educational data elements defined and described under each of the following categories: institutional, faculty/staff, student, physical facilities, financial, and general education.

Wing, Paul, et al. "Statewide Measures Inventory." Technical Report 68. Western Interstate Commission for Higher Education, Boulder, Colorado (DHEW, Washington, D.C.), 1975.

A list of concisely defined items of information relevant to Statewide postsecondary education planning and management. Inventory includes eight sections, one of which is Finances.

APPENDIX C

BIBLIOGRAPHY

1. Douglas J. Collier. "A Common Structure of Displaying Expenditure Data." July 20, 1973. National Center for Higher Education Management Systems.

2. Ernst & Ernst. "Nonprofit Organization Accounting and Reporting." 1978.

3. Joe R. Fritzemeyer and Gerald E. Snyder. "The Present Status of University Financial Reporting." NACUBO Business Officer Newsmagazine of the National Association of College and University Officers, September, 1978.

4. Hans H. Jenny. "The Consolidated Net Worth of Private Colleges." 1973.

5. Andrew H. Lupton, John Augenblick, Joseph Heyison. "The Financial State of Higher Education." Change, Volume 8, Number 8, September, 1976.

6. Alfred Marshall. Principles of Economics. Macmillan and Company, New Jersey, 1948.

7. NACUBO, ACBCU. "Budget and Financial Responsibilities of Governing Boards," W.W. Kellogg Foundation, Sponsor, 1978. Draft Statement.

8. June O'Neill. "Resource Use in Higher Education." Carnegie Foundation, 1971.

9. Price, Waterhouse & Co. "Position Paper on College and University Reporting." 1975.

10. Daniel D. Robinson, C.P.A. "Accounting Principles and Financial Statements." NACUBO, Volume 4, Number 3, May 1973.

11. Report of the Treasurer, The University of Rochester, 1972.

12. William M. Wilkinson. "The University Treasurer's Report Can Make Sense Without Abandoning Fund Accounting or Stewardship." NACUBO, Volume 2, Number 9, 1973.

13. William M. Wilkinson. "The Fiction of 'Restricted' Funds in Institutional Accounting" in NACUBO, September, 1976.

14. G. Richard Wynn. "Report of the National Commission on the Financing of Postsecondary Education." December 1973.

15. G. Richard Wynn. "A Study of the Financial Condition of 15 Women's Colleges, 1972 to 1975. (Unpublished paper)

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